

Directions: All questions must be completed on loose leaf. A calculator is allowed. Please reduce any fractions to lowest terms. Place a box around your final answer. **ALL WORK MUST BE SHOWN FOR FULL VALUE.**

Part A: Please answer all questions.**/12**

- 1) Evaluate: 2 marks

$$\frac{1}{8} - \left(-1\frac{1}{3}\right) \div \left(-\frac{1}{4}\right)$$

- 2) Solve the following equations: (a & b - 1 mark each, c & d - 2 marks each)

a) $12m - 11 = -6m - 13$

b) $-3(x - 2) = -(2x + 10)$

c) $\frac{1}{3}(y + 4) = \frac{1}{2}(y + 1)$

d) $\frac{x}{4} + \frac{5}{6} = \frac{10}{3}$

- 3) Solve the following inequality: 2 marks

$$\frac{n+5}{-3} < -5$$

- 4) Solve the inequality (1 mark) AND graph the solution (1 mark):

$$-30 + 3b < 3(8 + 4b)$$

Part B: Please answer all questions. 3 marks each**/12**

- 1) The difference between the length and the width of a rectangle is 6 cm. The perimeter of the rectangle is the same as that of a square with sides of 7 cm. What are the dimensions of the rectangle?
- 2) Solve the following equation for the unknown variable x. Show your work.
 $2(2x + 1) - 4(x + 4) = -1(x + 4) + 9$
- 3) Your class is planning a trip to the zoo. The school will have to pay \$200 for the bus plus \$5 per student.
 - a) Write a linear equation to determine the cost of the trip.
 - b) How much will it cost for 42 students?
 - c) The trip budget is \$600. How many students can go on the trip?

- 4) Write a linear equation to represent the pattern in the given table of values.
Describe a context for the equation.

x	y
1	10.50
2	11.00
3	11.50
4	12.00

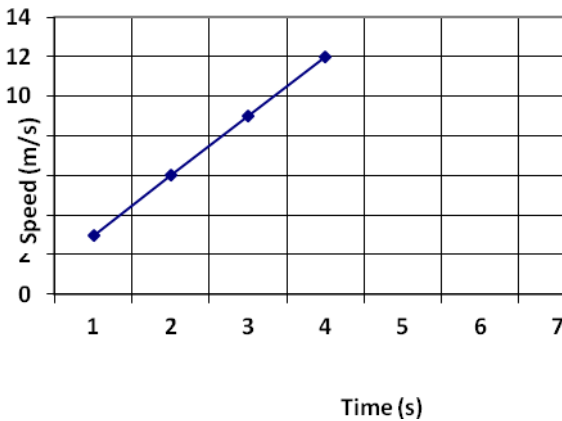
Part C: Complete question 1 and choose any 2 of the remaining 3 questions.
4 marks each /12

- 1) Solve:

$$\frac{c-1}{6} + \frac{c-2}{3} = \frac{2}{3}$$

(Leave answer in fraction form)

- 2) If a rectangle has dimensions of $(x - 2)$ and $(3x - 4)$, find the area's numerical value if the rectangle has a given perimeter of 44.
- 3) Given the following graph describe the pattern and write the equation.
Describe a situation that could result in the graph.



- 4) You have just purchased a new cell phone. The phone plan costs \$10 per month and \$0.10 per text message.
- Write a linear equation that represents this situation.
 - Create a graph to represent the situation.
 - Estimate the cost of sending 100 text messages using the graph.
 - If you have \$30, how many text messages can you send?